Sea Grass Farming

In order for Tsunami victims to begin rebuilding their lives independent from foreign or governmental aid, the people will need jobs. This project looks at the type of jobs that people had before the Tsunami, their relevance after the Tsunami, and a new job possibility Sea Grass Farming.

Livlihoods Before Tsunami + Tsunami's Effects + Sea Grass Farming + Sea Grass Products +

Livilihoods Before the Tsunami

Fishing is the mainstay of economic activities most affected by the tsunami, with additional income coming from trees (pisang, coconut, banana) and livestock (most commonly chickens but some goats and cows). Padi farming communities tend to be situated within the belt behind the fishing communities. Hill farmers (vegetables, trees) are found on higher elevations behind the padi farms.

The figures below shows the kinds of occupations fishing communities were engaged in before the tsunami and the average daily incomes. The dotted line indicates the daily cost of the minimum quantity of basic food and non-food items needed by a typical household of 5 people (just under Rph 20,000 per day)5. For the lower paid occupations two incomes are necessary to break even. In some households men may do two activities (e.g. fish in the morning and work in padi farms in the afternoon and women who work may also do one or more activity). Most women's occupations are low-paid, so women-headed households are therefore particularly vulnerable. In many poor families young children leave school at 12 and help out in productive activities. This is a long-term issue that should be addressed in all phases of the response, particularly in the long-term.



A disaggregation of households according to livelihood groups provides the following breakdown

Rural fishing communities

	Poor	Middle	Better Off
Type of household and income-earning occupations	Female- or elderly- headed households Farm labourers Fishermen (employed on large boats)	Fish farm 1 ha Fish farm worker Small boat owner (10 men) Small boat owner (1-2 men)	Larger fishing boat owne (35 men) Fish farmer 3-4 ha
Amount of land around house	30m x 20m land around house	- $\gamma_{\rm f}$ ha of land around house	 > 2 ha of land around house
Other sources of income	• <5 cocount trees	Chickens 40 cocount trees*	Chickens 150 cocoust trees
Pod/Farm land		May also own farm land in village or elsewhere	May also own farm land in village or elsewhere
Estimated %-of population	50%	40%	10%+

Indonesia - Banda Aceh Subset 1

IKONOS - January 10, 2003 - PRE-DISASTER IMAGE

"Urban" fishing communities

	Poor	Middle	Better Off
Type of household and income-earning occupations	Female- or elderly- headed households; frsh loaders Fishermen	Bejak driver Labourer Fish seller	 Large fishing bost owner (35 men)
	(employed on large boats) • Hawker	Trader Carpenter etc.	

1:5000

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financia

human

natural

Sea Grass Farming

Tsunami's Effects

IKONOS - December 29, 2004 - POST-DISASTER IMAGE



Fishing communities were hardest hit with some suffering near-complete destruction and some villages escaping major destruction. The impact on fishing communities has included loss or damage to houses, loss of assets and productive equipment, loss of economic opportunities, loss of markets, loss of ice-making facilities. "Urban" fishing communities were also badly affected and effects on these communities includes difficulties for businesses such as bajak drivers and clothes sellers whose customers are gone or have no purchasing power. Farmers (padi growers) were also affected but to a far lesser extent than fishing communities. Some damage to land or crop loss has occurred in areas where farm lands are close to the sea, but generally the farm land is behind the fishing community. Farming communities, however, have lost markets for other crops such as chilli (price down from Rph 12,000 per kg to Rph 3,000 per kg) and cocoa (no market at all) and in many areas the cost of the some

commodities is higher than normal.

Moreover, many farming communities (like fishing communities) were previously able to access subsidized rice through the government's BULOG system (known as raskin) (at Rph 1,000

per kg compared to around Rph 3,000). This system has ceased while the food is being distributed to those affected

by the tsunami – and farming communities may not have been identified in this category. Generally the destruction of Banda Aceh's trading infrastructure is a major problem for recovery. Ice factories for

fishing boats and traders (between Banda Aceh and Medan) are clearly missed. Moreover, the relief operation is

likely to have driven up prices for truck hire which will hamper the ability of traders to trade in local produce. The

destruction of the trading hub of Banda Aceh is a key constraint to immediate and longer term recovery for all

livelihood groups.

The following table provides a summary of the different types of occupation along the coast, the effect of the

tsunami on the activity, and possible ways to address the current constraints to the activity.

	Rph 5.000'd; (fewar boats going to saw)	
Labouar ("arban")	Some income as before for laborating. Additional work available for necessitisction	Prob OK
Vegetable traders	States and states	Change in location only, lower priors
Bejok dever ("sebou")	Income per day dropped from around Rph 40,000 per day to Rph 15-30,000 now	No solution; has to wait for economy to shell up again?
Clothes trader (women) ("tefteni")	Fex considers and lack of capital	CFW (social work?)
Domestic worker (notion) ("siftest")	Containes to work with some family at some rate.	No problem, others whose employers lost houses need CFW
Wedding clothes (savet women) ("sefuec")	Probably still working if they have a house	CFW plot additional increase science if single wrongs.
Large bost owner ("urbus" and rarel fielding constantion)	Many are OK - wate on the saw when transme hit; some are already pring out duly not carching field, were not being mod to take relief to Manlado at good prine, price of field higher than scenari. Employs so to 53 mm.	Credit for bost repoir (night have own credit sources and likely to have back serings). Needs house first
Median boat owner (rend foling committee)	Englisys 10 or 20 men	Code great for repair and operating start-up credit, needs house first
Sead bor over (1-2 con) (verd fishing commuter)	Not exciting, most both need score repeir: boat owners often make/sepair boats themefree, if daringing employs 2 women to dry ularings.	Code grant for repear construction, much loose first
Shring-drym (women) (rumi fishing commution)	Not entrang	CFW = identification of alternative income screar (e.g. chickets, capital for party trade etc.)
Yombok fish farmer ("selimi"	Most not working, maploys 1 mm par he:	Credit? other spencies might
and rand ficking communities)	Boh Bettes need inhabilitation, isone of environmental sostemability*	support this (FAOT), polition of during "seed" Measurements interaction incontents"
Forehold worker	Not working	CPW until ponds rehabilitated
Boot worker (Solarman) (rani)	Most samployed	CFW surfil fielding industry resonary
Furm laborane (rural fleming tratificed group)	Work is available on firms	CFW
not making (rent) (wream)	In most locations OK, in some materials not evaluable	C3.M
uske seller (nani/vehos) (womani)	Ne saekat	Stat-up grant for machines, needs place to work (herea)
per-amazant worker (taftan)	Working	SA
children (12+ years old) agricultural laborar (deming commuties)	Not working	Immediate and long-term invest- households used additional invitioned activity
carpenter's avoidant (safess)	Work evaluable	
saudi tesder (selbes)	No shep; can start as hawker and build up	Start-up-copital for initial stock, building materials, credit
Corposter (self-sa)	Unskilled work evaluation no workshop to work out of or tools	Grant'uredit for tools
Additional services of morene (surrout)	No-chiespe (Rph 500'coccess)	Sio chenge
Farmers	Loss of repeable sawkers	Plonghing of head (cosh great or credit)
Frem labourer		CPW

financial

human

social

physical

natura

financial

human

social

physical

natural

Resource: 'Indonesian Livliehoods'. Save The Children Report 2004

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economics

Sea Grass Farming

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Before the Tsunami the major industries supporting the Achenese were fishing and farming. As a result of the Tsunami many fishing boats were damaged or lost, the habitats of marine animals along the shoreline were changed, and plants on the island became saturated with salt water.

In order for the fishing workers to get back to work they will need to repair their boats, purchase the necessary equipment and then find the good fishing spots. The fishing industry in the Tsunami affected areas have a hard task ahead of them, however, in caomparision to the farmers in the farming industry, it will have more immediate rewards.

The farmlands that were covered with sea water have lasting effects form the Tsunami. The salt from the sea water will change the chemistry of the soil. It is uncertain if the plants planted on these farm lands pre-Tsunami will continue to grow in the effected soil. Whether a type of plant that has economic value will be able to grow in the salinated water is yet to be determined.

One plant with economic value that already grows in the sea that can be harvested right off shore is sea grass. I propose that Sea Grass Farming become a new industry in the Aceh.

Advantages in Aceh

Food availability in Aceh is not a big problem – the Government's Bulog system exists to ensure low prices of staple items for consumers and good prices for producers. Markets are currently functioning in most areas and production in Aceh is usually almost double the consumption needs.

Therefore, farmers whose fieldsbecame flooded may choose to change their livilhood at least for awhile and harvest sea grass. Depending on the depth of the water and behaviour of the sea youth could earn some money from harvesting sea grass and either making products out of it and selling them or selling the sea grass to companies that manufacture furniture and other products made from sea grass.





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economics

Sea Grass Farming

There are many ways to use sea grass that are not shown in the

Sea Grass Products

Home Décor Items

couches/chairs

